

REMARKS

In view of the foregoing amendments and the following remarks, Applicants respectfully request reexamination of the present application. Claim 116 has been amended, Claim 117 has been cancelled and new Claims 130-132 have been added. Claims 116, 118-121 and 123-132 are pending upon entry of this amendment.

Applicants acknowledge with appreciation that the Examiner has removed the rejections under 35 U.S.C. § 102(b). Applicants also acknowledge that the Examiner has objected to Claims 117 and 123 as being dependent upon a rejected base claim, but states these claims would be allowable if rewritten independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections – 35 USC §103

The Examiner has rejected Claims 116 and 118-121 and 124 under 35.U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,413,736 by Nishisu et al. The Examiner states that Nishisu et al. disclose substantially spherical, Eu-doped Y₂O₃ particles having an average particle size of 0.99-0.21 microns, where more than 99% of the particles have a size within the range of $D \pm 0.05$ microns (where D is the average particle size). The Examiner states that the size distribution disclosed by Nishisu et al. falls within the claimed ranges and that the average particle size range overlaps the claimed range. The Examiner states that product claims with numerical ranges which overlap prior art ranges were held to have been obvious under 35 USC 103. *In re Wertheim*, 191 USPQ 90 (CCPA 1976); *In re Malagari*, 182 USPQ 549 (CCPA 1974); *In re Fields*, 134 USPQ 242 (CCPA 1962); *In re Nehrenberg*, 126 USPQ 383 (CCPA 1960). The Examiner also states that these particles are known in the art to be single crystals and thus have a crystallite size that falls within the claimed range.

The Examiner also states that the taught precipitation and calcination process is known to produce high purity particles and one of ordinary skill in the art would expect this resulting high purity to overlap the claimed range, absent any showing to the contrary. In response to the Applicants' prior arguments regarding this aspect of the claimed invention,

the Examiner states that they have been considered but that they are not convincing. Specifically, the Examiner states that Applicants have not shown that the phosphor particles have an impurity range that does not overlap the claimed range. As evidence, the Examiner cites U.S. Patent No. 5,879,647 by Wataya et al. The Examiner states that Wataya et al. teaches that when hydroxycarbonate particles are produced by a similar process to that of Nishisu et al. and are calcined at 700°C to 1300°C, the particles are free from carbonaceous impurities. Therefore, the Examiner maintains the rejection.

In view of the foregoing amendments and the following remarks, Applicants respectfully traverse this rejection. Applicants have amended independent Claim 116 to incorporate the limitation of Claim 117. Therefore, removal of this rejection is requested.

Applicants have added new Claims 130 to 132. Support for new Claim 130 can be found on page 56, lines 19-22 of the present specification. Support for new Claim 131 can be found at page 56, lines 7-10. Support for new Claim 132 can be found at 57, lines 9-13 of the present specification.

Double-Patenting Rejections

The Examiner has rejected Claims 125-129 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 28-30 of U.S. Patent No. 6,180,029 by Hampden-Smith et al. The Examiner states that although the conflicting claims are not identical, they are not patentably distinct from each other because these claims teach a powder batch comprising substantially spherical Y_2O_3 phosphor particles have weight average particle size of from about 0.3-5 micron and a particle size distribution wherein at least about 90 wt% of the particles are not larger than twice said average particle size, where the phosphor particles are activated with europium and have an average crystalline size of at least about 25 nm. The particle characteristics in the patented powder batch overlap those claimed in this application.

The Examiner has also rejected Claims 125-129 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 19 and 23 of U.S. Patent No. 6,197,218 by Hampden-Smith et al. The Examiner states that although the conflicting claims are not identical, they are not patentably distinct from each other because these claims teach lighting element comprising substantially spherical Y_2O_3

phosphor particles have a weight average particle size of from about 0.3-5 micron and a particle size distribution wherein at least about 80 wt% of the particles are not larger than twice said average particle size, where the phosphor particles are activated with europium and have an average crystalline size of at least about 25 nm. The Examiner states that the particle characteristics of the phosphors in the claimed device overlap those claimed in this application.

The Examiner has also rejected Claims 125-129 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 49, 50 and 53 of U.S. Patent No. 6,875,372 by Hampden-Smith et al. The Examiner states that although the conflicting claims are not identical, they are not patentably distinct from each other because these claims teach a display device comprising substantially spherical Y_2O_3 phosphor particles have a weight particle size of from about 0.3-5 micron and a particle size distribution wherein at least about 80 wt% of the particles are not larger than twice said average particle size, wherein the phosphor particles are activated with europium and have an average crystalline size of at least about 25 nm. The Examiner states that the particle characteristics of the phosphor particles in the claimed device overlap those claimed in this application.

The Examiner has also provisionally rejected Claims 125-129 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 62, 63, 66, 76-80 and 88 of copending Application No. 10/730,756 by Hampden-Smith et al. The Examiner states that although the conflicting claims are not identical, they are not patentably distinct from each other because these claims teach a photoluminescent device comprising substantially spherical Y_2O_3 phosphor particles have a weight average particle size of from about 0.3-5 micron and a particle size distribution wherein at least about 80 wt% of the particles, preferably at least 90 wt% of the particles, are not larger than twice said average particle size, where the phosphor particles are activated with europium and have an average crystalline size of at least about 25 nm. The Examiner states that the particle characteristics of the phosphor particles in the claimed device overlap those claimed in this application.

Applicants request that the foregoing obviousness-type rejections be held in abeyance until otherwise patentable subject matter has been determined.

It is not believed that any additional fees are owed with respect to this response, however any such fees can be charged to Deposit Account No. 50-1419.

Applicants believe that all pending claims are in condition for allowance and such disposition is respectfully requested. In the event that a telephone conversation would further prosecute and or expedite allowance, the Examiner is invited to contact the undersigned.

Respectfully submitted,

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